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The Impact of Environmental Commitment on Financial Performance: With Green Innovation As Mediating Variable

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Annotation: *Commitment to the community is part of a larger corporate plan involves not only development and expansion but also a concern for social responsibility. The issue of commitment to environmental sustainability has recently become increasingly popular and this has been emphasized in the 2030 Agenda and Sustainable Development Goals (SDGs) Agenda 2063. The purpose of this study was to examine the effect of environmental commitments referring to ISO 14001 as an independent variable on the financial performance of companies using return on assets (ROA) as the dependent variable through green product innovation as a mediating variable. The sample was taken from the financial reports of manufacturing companies listed on the Indonesia Stock Exchange (IDX) for 2019-2021. Samples were selected using the method of purposive sampling. Analysis using SPSS 25 with path analysis method and multiple linear regression analysis with a significance level of 5%. The results of this study indicate that environmental commitment has no effect on financial performance, but green product innovation has succeeded in partially mediating the effect of environmental commitment on financial performance.*

Keywords: *Environmental Commitment; Green Innovation; Financial Performance Performance.*

PRELIMINARY

The application of environmental accounting through ISO 14001 certification can actually have positive implications because the company gives a signal to the environment that the products produced go through various stages that do not damage the environment (Ferron *et al.*, 2012). However, this is not the case with the research conducted Hazudin *et al* (2015), that ISO 14001 certification which focuses on building a corporate image of environmental responsibility has a good

reputation in the community, the implication of which is to increase profitability. Nonetheless, there is a difficult relationship between local government and business (Hussain, Rigoni and Cavezzali, 2018). Every individual has different responsibilities, values, needs, wants, and resources and therefore every financial activity must also be carefully planned to meet specific needs and goals (Gumbo, L., Margaret, M., & Chagwesha, M., 2022; Mappadang, A., Wijaya, A, M., and Mappadang, L, J. (2021).

The Ministry of Environment and Forestry pays attention and awards to 186 business actors who are included in the Green Proper, namely business actors who have carried out environmental cleaning procedures that are more thorough than required by law (beyond compliance) and have also used daily supplies. effectively and effective social engagement (www.menlhk.go.id). The business environment is volatile, uncertain, complex and ambiguous (Gerald, E., Obianuju, A., Chukwunonso, N. 2020).

Businesses and Corporations in recent times have relentlessly rethought their business processes to include the use of the internet, most especially its availability, reach and dynamic features (Naab, R., & Bans-Akutey, A., 2021). To accelerate the practice of high-value innovation, businesses must commit to a long-term vision. Commitment to the environment is a commitment made by an organization to implement a new environmental program and strengthen its environmental strategy (Sarkis, Gonzalez-torre and Adenso-diaz, 2010). Each business's ingenuity, comprising demand chain controlling, must eventually prime to improved organizational recital (Mitiku, M, A., & Nega F, A. , 2021). According to Suasana and Ekawati (2018) and Chang and Chen (2013), the greater the company's commitment to environmental preservation, the greater the opportunities for innovation in process and product development in the environment. Business actors must provide good service to attract investors. The ability to stay competitive in any market through innovation is an indication of a company's success (Hu, 2010). Innovation in the environmental field being pursued by businesses to reduce pollution and environmental degradation (Sawang and Unsworth, 2006).

Businesses in developing countries have different social values and policies from businesses in developed countries, which are interconnected on a global scale (Xie *et al.*, 2016) .The level of technological innovation in developing countries is higher than in developed countries. Indonesia is experiencing tightening regulations that stifle high-tech innovation. In addition, the government consistently provides incentives (not long-term regulations) to businesses that promote environmental innovation (Ma *et al.*, 2010). The continuity of a company's business will be guaranteed if it pays attention to the condition of society and the environment in addition to profits. By focusing on the environment, businesses can gain direct benefits in terms of health, sustainability, and availability of clean water (Strouhal and Ištvánfyová, 2010). The advancement of green processes and the development of green products in a company can increase the competitiveness of companies. Green product innovation creates environmental friendliness through an effective production process that utilizes raw materials and energy efficiently to reduce production costs. Increasing production costs can benefit businesses by increasing profits and allowing them to expand their business (Küçükoğlu and Pınar, 2015).

Because of this, According to Fields *et al* (2012), Institutional Theory is illustrated based on the assumption that the environment requires business in two different ways. Initially, the topic was technical or economic. Social and religious legitimacy comes from the general public, so organizations must comply with laws, regulations, rules, and standards that have been set by society. Organizational adaptation isn't just about internal efficiency; it also involves conforming to societal norms.

According to Mousa and Hassan (2015) legitimacy theory is a condition where the values of a system imposed by a particular entity are directly opposite to the values of a more expansive system. If a company has communicated with the general public to understand what the general public cares about. Then, the business succeeded in creating this perception and implemented an environmentally friendly innovation strategy that allowed the business to successfully build legitimacy. It is easier for businesses to gain legitimacy from the general public thanks to their commitment to environmental protection and high-tech innovation. Legitimacy theory emphasizes that every business always has a social relationship with the surrounding environment, be it the natural environment or the social environment. Therefore, when businesses can withstand challenges and the turbulence present in a typical business environment, that business is said to be sustainable (Chinedu, O. F., Dennis, M. O., & Chikwuemeka-Onuzulike, N. 2020; Kloko, D. M. E., & Bayunitri, B. I. 2020).

Environmental Commitment has a very important role in the success of business operations. Based on Legitimacy Theory focuses on the interaction between business and the general public (Aziza, 2014). In recent years, commitment to the environment has become a major focus for governments, policymakers, the general public, and the business world. This is a result of global warming, ozone depletion, and other factors that have been present in recent years. The relationship between environmental commitment and firm performance may be oversimplified. Companies are under simultaneous pressure to improve environmental performance and excel financially. However, larger commitments often require companies to reinvent their operations, strategies (e.g., product, price, distribution, and promotion practices), and business models (Dangelico, Pujari and Pontrandolfo, 2016), (Kotler, 2011) and (Hart, 1995). Not every company can succeed in this process. Therefore, the relationship between environmental commitment and firm performance may depend on firm-specific factors that were not previously modeled. In addition, investors may not be able to build a portfolio of stocks for superior returns based on environmental commitments alone. With Additionally, the findings show that companies that excel in marketing tend to experience superior financial value as their environmental commitment increases. Therefore, in making investment decisions, investors should not consider environmental commitments separately from other company-specific factors, especially marketing and operating capabilities. As stated Vu and Dang (2020), namely environmental commitment has a positive effect financial performance. Therefore, it is important to study the current term profit and long-term performance as a result. Based on the description above, the authors formulate a hypothesis:

H1: Environmental Commitment has a positive effect Financial Performance

A commitment that drives the Fulfillment of Expectations for Heads of State and a mindset that will enable businesses to engage in more effective high-innovation practices. According to Legitimacy Theory, a company's social quota must comply with all applicable laws, rules, regulations, and societal expectations. Based on research from Atmosphere Suasana and Ekawati (2018), Burki

and Dahlstrom (2017), and (Chang and Chen, 2013), every company can innovate high-quality products with community support. Based on the description above, the authors formulate a hypothesis:

H2: Environmental Commitment has a positive effect Green Product Innovation

Green product innovation has an important role in improving the company's financial performance. Therefore, innovative green processes are critical in addressing the impact of community commitments on business operations. This is by research conducted by Ryszko (2016), (Grekova *et al.*, 2013), and Burki and Dahlstrom (2017) both suggest that new green processes are possible. Therefore, the proposed hypothesis Küçükoğlu and Pınar (2015) promotes innovation in green products as a special tool for marketing projects by continuously increasing market share. In addition, there is a cost leadership strategy. This has an impact on the company's lab quality standards. Chen and Chang (2012) emphasized the importance of product innovation for businesses pursuing differentiating strategies. Businesses that innovate high-quality products can face competitive pressures, which allows them to sell high-quality goods, improve their reputation, and create new markets. Based on the description above, the authors formulate a hypothesis:

H3: Green Product Innovation has a positive effect on Financial Performance

1. Path Analysis Model
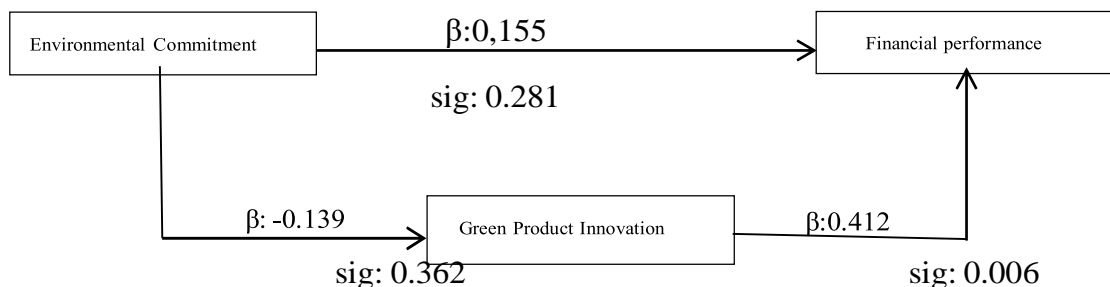
RESEARCH METHODS

This study examines the relationship between environmental commitment to financial performance through green innovation as a mediator. So, this research uses quantitative methods using quantitative data. The population is non-financial companies go public in Indonesia which is listed on the Indonesia Stock Exchange. The selection of the research sample was based on the purposive sampling method, to obtain a representative sample according to the criteria set out in this study. Among the criteria listed in this essay are:

1. The manufacturing company has been operating and profitable for three years.
2. Manufacturing companies with the latest information regarding green innovation and strong environmental commitments.
3. Companies that do not have international certification 1SO 14001 or companies that do not implement a commitment to the environment and companies that have ISO 14001 certification.

The dependent variable is the variable that is influenced. In this study, financial performance is the dependent variable. In this variable, the construct of financial performance is measured or refers to studies (Amores-salvadó, Castro and Navas-lópez, 2014) Return on assets (ROA) is a measure of financial performance that is often used in the green literature and shows certain test results well in the past nor currently. ROA is more stable than sales or profit growth at the point of sale during a rapid stream of financial performance due to short-term managerial effects and awareness of the external environment in emerging markets (Li and Wong, 2003). Therefore, because of stability and consistency, we use ROA to improve financial performance.

Mediating variables are variables that link between variables independent of the dependent variable. Green product innovation is a mediating variable based on research conducted by (Amores-salvadó, Castro and Navas-lópez, 2014), (Chiou *et al.*, 2011), (Lin, Tan and Geng, 2013), and (Wong, 2012), we measure green product innovation using three indices. In our study, three items were scored using the content analysis method.

The independent variable is the influencing variable. In this study, environmental commitment is an independent variable. Commitment to the local environment is a key variable in this study. Measurement of environmental commitment refers to research conducted by Nishitani (2008) using ISO 140001 as a proxy for environmental commitment variables in companies with dummy variables, where the number 1 (one) indicates a company that already has ISO 14001 certification and the number 0 (zero) indicates no have ISO 14001 certification. Companies can decide to adopt ISO 14001 at the facility level, and we define a company that has at least one facility with ISO 14001 as a "certified company", and the year in which the company's first facility adopted it as ".

RESULTS AND DISCUSSION

Results of Descriptive Statistics

Descriptive Statistics

	N	Your minim	your maxim m	Means	std. Deviation
Environmental Commitment (X)	45	, 00	1.00	, 5333	, 50452
Green Product Innovation (Z)	45	2.00	6.00	4.1333	1.03573
Financial Performance (Y)	45	, 01	, 31	, 0898	, 06581
Valid N (listwise)	45				

Based on the table above, it can be described that the number of respondents is 45. Out of these 45 respondents, the independent variable Environmental Commitment has a minimum value of 0.00 and

a maximum of 1.00 with an average total answer of 0.533 and a standard deviation of 0.504. The Green Product Innovation billing variable has a minimum value of 2.00 and a maximum of 6.00 with an average total answer of 4.133 and a standard deviation of 1.035. While the dependent variable Financial Performance has a minimum value of 0.01 and a maximum of 0.31 with an average total answer of 0.089 and a standard deviation of 0.065.

Normality Test Results
One-Sample Kolmogorov-Smirnov Test

		Performance Finance (Y)
N		45
Normal Parameters,b	Means	, 0898
	std. Deviation	, 06581
Most Extreme Differences	absolute	, 117
	Positive	, 117
	Negative	- , 104
Test Statistics		, 117
asymp. Sig. (2-tailed)		, 139c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

The results of the normality test using the Kolmogrov-Smirnovpresented in the table above show that the dependent KZ is 0.117 with a significant level of 0.139. From these results it canbe seen that the significant figure (Sig) for the dependent variable in the Kolmogrov-Smirnov test is 0.139 > 0.05, meaning that the sample is normally distributed.

Multicollinearity Test Results
Coefficients

Model	Unstandardized Coefficients B	std. Error	Standarddied Coefficient Betas	t	Sig.	Collinearity Statistics tolerance	VIF
1 (Constant)	- , 029	, 041		- , 714	, 479		
Commitment	, 020	, 018	, 155	1,093	, 281	, 981	1.020

Environment (X)							
Product Innovation Green (Z)	, 026	, 009	, 412	2,910	, 006	, 981	1.020

a. Dependent Variable: Financial Performance (Y)

Based on the test results in the table above it is known that the Environmental Commitment variable has a tolerance value of 0.981 and a VIF value of 1.020, while the Green Product Innovation variable has a tolerance value of 0.981 and a VIF value of 1.020. From the results of the data above, it can be concluded that all VIF in all research variables is less than 10 (< 10). This shows that there is no multicollinearity problem in the regression model.

Heteroscedasticity Test Results
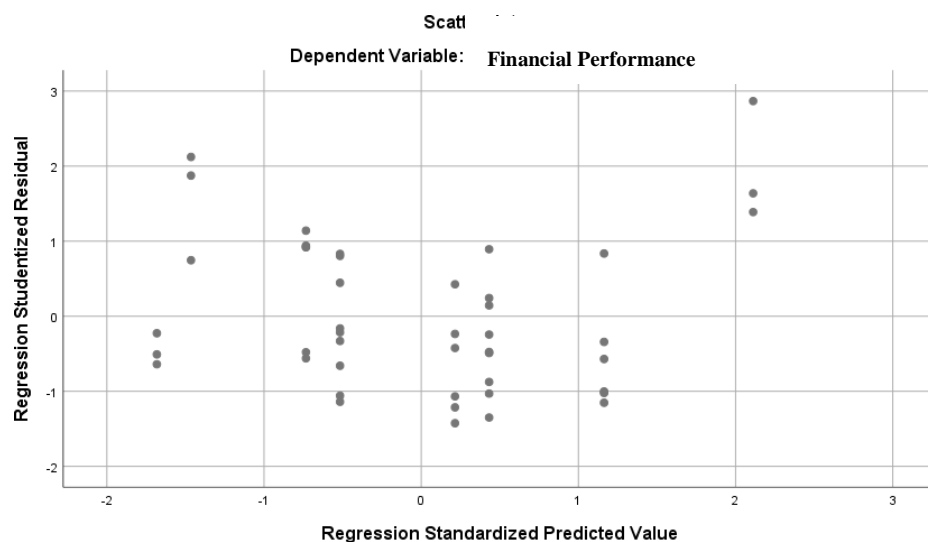
Based on the table above, it can be seen that nothing forms a pattern, the dots spread above and below the number 0 (zero) on the Y axis, so it can be concluded that there is no heteroscedasticity in this regression model.

Summary models

Model	R	R Square	Adjusted R Square	std. Error of the Estimates	Durbin-Watsons
1	, 419a	, 176	, 136	, 06116	, 968

a. Predictors: (Constant), Green Product Innovation (Z), Environmental Commitment

(X)

b. Dependent Variable: Financial Performance (Y)

Based on the table above the Durbin-Watson value of 0.968 with a table value using a significance of 5%, the number of samples is 45 companies and the number of independent variables is 2, then the

Durbin-Watson table will get a value of 2, the Durbin-Watson value is 0.968. It can be concluded that: du < DW < 4-du. Hence the value of Durbin Watson 0.968 < (du) 1.615 (4-du) it can be concluded that we cannot reject Ho which states that there is no positive or negative autocorrelation.

Multiple Linear Regression Analysis
Coefficients

Model		B	std. Error	Betas	t	Sig.	tolerance	VIF
		Unstandardized Coefficients		Standardzed Coefficients	t	Sig.	Collinearity Statistics	
1	(Constant)	- , 029	, 041		- , 714	, 479		
	Commitment Environment (X)	, 020	, 018	, 155	1,093	, 281	, 981	1.020
	Product Innovation Green (Z)	, 026	, 009	, 412	2,910	, 006	, 981	1.020

a. Dependent Variable: Financial Performance (Y)

Based on the table above, a multiple linear regression equation can be made as follows: Y = - 0.029 + 0.020 X + 0.026 Z. The regression coefficient value of the variable Environmental Commitment (X) on Financial Performance (Y) is 0.020. This value indicates that each decrease/increase in Environmental Commitment by 1 unit is predicted to increase (+) Financial Performance by 0.020. Then the coefficient value of Green Product Innovation (Z) on Financial Performance (Y) is 0.026. This value indicates that every 1 unit decrease/increase in Green Product Innovation is predicted to decrease (-) Financial Performance by 0.026.

Path Analysis

Results of Regression Analysis of Environmental Commitment to Green Product Innovation

Coefficients

Model		B	std. Error	standardized Coefficients Betas	t	Sig.
		Unstandardized Coefficients		standardized Coefficients Betas	t	Sig.
1	(Constant)	4,286	, 226		18,930	,000

Commitment Environment (X)	- , 286	, 310	- , 139	- , 922	, 362

a. Dependent Variable: Green Product Innovation (Z)

The path analysis equation obtained from the green product innovation variable is as follows: **Z = 4.286 + (-0.139 X).** The value of standardized coefficients beta indicates the contribution of the variable environmental commitment to green product innovation is -0.139.

Summary models

Model	R	R Square	Adjusted R Square	std. Error of the Estimates
1	, 139a	, 019	- , 003	1.03750

a. Predictors: (Constant), Environmental Commitment (X)

The magnitude of the R Square value contained in the table above is 0.019. This indicates that the contribution of the influence of X on Z is 1.9% while the remaining 98.1% is the contribution of other variables not included in the study. meanwhile, the value of e1 is 0.990

The equation Y = f (X, Z). The second equation is used in this study to prove the hypothesis regarding the effect of the independent variables (environmental commitment and green product innovation) on the dependent variable (financial performance) which is explained in the table below:

Regression Results of Environmental Commitment and Green Product Innovation on Performance Finance

Coefficients

Model	Unstandardized Coefficients B	std. Error	standardized Coefficients Betas	t	Sig.
1 (Constant)	- , 029	, 041		- , 714	, 479
Commitment Environment (X)	, 020	, 018	, 155	1,093	, 281
Green Product Innovation (Z)	, 026	, 009	, 412	2,910	, 006

a. Dependent Variable: Financial Performance (Y)

The path analysis equation obtained from the financial performance variable is as follows: $Y = -0.029 + 0.155X + 0.412 Z$. Based on the test results in the table above it is known that the significance value of the variable $X = 0.281$ is greater than 0.05 indicating that environmental commitment has no significant effect on financial performance (Y). Meanwhile, the significance value for the variable $Z = 0.006$ is less than 0.05. This indicates that green product innovation has a significant effect on financial performance (Y). The value of standardized beta coefficients indicates the magnitude of the contribution of the environmental commitment variable to financial performance is 0.155. Meanwhile, the value of standardized beta coefficients indicates the magnitude of the green product innovation variable's contribution to financial performance is 0.412.

Summary models

Model	R	R Square	Adjusted R Square	std. Error of the Estimates
1	, 419a	, 176	, 136	, 06116

a. Predictors: (Constant), Green Product Innovation (Z), Environmental Commitment (X)

The magnitude of the R Square value contained in the table above is 0.176. This indicates that the contribution of the influence of X and Z on Y is 17.6% while the remaining 82.4% is the contribution of other variables not included in the study. Meanwhile, the value of e1 is 0.907.

R^2 test results

Summary models

Model	R	R Square	Adjusted R Square	std. Error of the Estimates
1	, 419a	, 176	, 136	, 06116

a. Predictors: (Constant), Green Product Innovation (Z), Environmental Commitment (X)

Based on the table above the value of R *Square* for the variables of environmental commitment and green product innovation obtained by **0.176**. This means Pahwa's **17.6%** financial performance can be explained by the independent variables in the model, while the rest is equal to **82.4%** explained by other variables not included in the regression model.

Model Feasibility Test (F Test)

The model feasibility test was conducted to find out whether a regression model is feasible or not through statistical testing. Testing this regression model is carried out using a Significance Level value of 0.05 or (0 = 5%) which will be compared with the Sig value in the ANOVA table. The results of the F statistical test are presented in the following table:

Model Feasibility Test Results
ANOVA

Model		Sum of Squares	df	MeanSquare	F	Sig.
1	Regression	, 033	2	, 017	4,474	, 017b
	residual	, 157	42	, 004		
	Total	, 191	44			

a. Dependent Variable: Financial Performance (Y)

b. Predictors: (Constant), Green Product Innovation (Z), Environmental Commitment (X)

Based on table 3 above it can be concluded that the value $F^{Count}(4,474) \geq F^{table}(2.73)$ with significant value **0.017**. Because the value of profitability is smaller than **0.05**

(0.017<0.05) means that simultaneously Environmental Commitment and Green Product Innovationhave a significant effect on Financial Performance.

Hypothesis Testing (T-Test)

After doing it simultaneously, the next step is to do a test to find out the ability of each independent variable to explain the behavior of the dependent variable with the t statistical test. Testing was carried out using a significance level of 0.05 (alpha = 5%). Rejection or acceptance of the hypothesis is carried out with the followingcriteria:

1. If significant > 0.05 then the hypothesis is rejected (the regression coefficient is not significant). This means that partially the independent variable has no significanteffect on the dependent variable.
2. If it is significant <0.05 then the hypothesis cannot be rejected (significant regression coefficient). This means that partially the independent variable has a significant influence on the dependent variable.

Statistical Test Results T
Coefficients

Model		Unstandardized Coefficients B	std. Error	Standardized CoefficientsBetas	t	Sig.
1	(Constant)	- , 029	, 041		- , 714	, 479
	Commitment	, 020	, 018	, 155	1,093	, 281

Environment (X)					
Green Product Innovation (Z)	, 026	, 009	, 412	2,910	, 006

a. Dependent Variable: Financial Performance (Y)

Based on the t statistical test above, the results for the Environmental Commitment variable (X) show that the value **count (1.093) < t^{table}(2,048)** significantly **0.281 > 0.05**). Then for the Green Product Innovation variable (Z), it shows that the value **count (2,910)**
> ttable(2,048) significantly **0.006 <0.05**. This means that partially Green Product Innovation has a significant influence on Financial Performance.

DISCUSSION

Direct Effect of Environmental Commitment on Financial Performance and business models (Dangelico, Pujari and Pontrandolfo, 2016), (Hart, 1995), and (Kotler, 2011). Not every company can succeed in this process. Therefore, the relationship between environmental commitment and corporate performance is possible depend on firm-specific factors that were not previously modeled. In addition, investors may not be able to build a portfolio of stocks for superior returns based on environmental commitments alone. Thus, the findings suggest that companies that excel in marketing tend to experience superior financial value as their environmental commitment increases. Therefore, in making investment decisions, investors should not consider environmental commitments separately from other company-specific factors, especially marketing and operating capabilities.

Indirect Effect of Environmental Commitment on Financial Performance Through Green Product Innovation

Based on field research and the results of path analysis testing, shows that environmental commitment does not affect green product innovation (p = 0.362 > 0.05). Likewise (Hirunyawipada, 2018)Anayochukwu, G, I., Ani, V, A., and Nsah, B. 2022). states that environmental commitment does not directly affect financial performance. Furthermore, the results of path analysis testing show that green product innovation affects financial performance (p = 0.006 <0.05). Green product innovation has an important role in improving the company's financial performance.

Therefore, innovative green processes are critical in addressing the impact of community commitments on business operations. This is by research conducted by (Ryszko, 2016), (Grekova *et al.*, 2013), and (Burki and Dahlstrom, 2017) both suggest that new green processes are possible. Therefore, the proposed hypothesis (Küçükoğlu and Pınar, 2015) promotes innovation in green products as a special tool for marketing projects by continuously increasing market share. In addition, there is a cost leadership strategy. This has an impact on the company's lab quality standards. Thus it can be concluded that environmental commitment influences financial performance through green product innovation with partial mediation.

CONCLUSION

Based on the results of data analysis through proving the hypothesis proposed in this study regarding the role of environmental commitment to financial performance through green product innovation, it can be concluded as follows:

1. Environmental commitment does not affect financial performance

2. Green product innovation can partially mediate the relationship between environmental commitment to financial performance

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